

**“A STUDY TO ASSESS THE EFFECTIVENESS OF  
SELECTED ANTENATAL EXERCISE IN TERMS OF  
RELIEVING MINOR DISORDER AMONG PRIMI GRAVIDA  
WOMEN ATTENDING ANTENATAL OUTPATIENT  
DEPARTMENT AT GOVERNMENT RAJAJI HOSPITAL,  
MADURAI”**

**M.Sc (NURSING) DEGREE EXAMINATION**

**BRANCH - III OBSTETRIC AND GYNECOLOGY**

**COLLEGE OF NURSING MADURAI MEDICAL COLLEGE,  
MADURAI - 20**



**A dissertation submitted to  
THE TAMILNADU DR. M. G. R. MEDICAL UNIVERSITY, CHENNAI  
In partial fulfillment of the requirement for the degree of**

**MASTER OF SCIENCE IN NURSING**

**JULY 2011**

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## ஒப்புதல் அறிக்கை

எனக்கு இந்த ஆய்வைப்பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்குபெறுவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி நான் புரிந்து கொண்டேன். நான் இந்த ஆய்வில் தானாகவே முன்வந்து பங்கு பெறுகிறேன். மேலும் எனக்கு இந்த ஆய்வில் இருந்து எந்த நேரமும் விலகிக்கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய சிகிச்சை ஆவணங்களைப் பார்வையிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுத்திக் கொள்ள அனுமதி அளிக்கின்றேன். என்னுடைய பெயர் மற்றும் அடையாளங்கள் ரகசியமாக வைத்துக் கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

இப்படிக்கு,

From:

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To:

Prof.Dr.Dilshad M.D.DGO  
Head of the Department  
Department of Obstetrics and Gynecology  
Madurai Medical College,  
Madurai.

Through the proper channel

Respected Madam,

**Sub: Permission to conduct study in Obstetrics and Gynecology Out Patient Department, Madurai.**

I, V. Vijayalakshmi II<sup>nd</sup> year M.Sc Nursing student college of nursing, Madurai medical College, Madurai in partial fulfillment of M.Sc Nursing course, I have plan to conduct the study on the topic mention below in obstetrics and Gynecology Out Patient Department. I assure that I'll not interfere with routine activity of your department. Kindly permit me to conduct the study.

“A study to assess the effectiveness of selected antenatal exercise in terms of relieving minor disorder among primi gravida women attending antenatal outpatient department at Government Rajaji Hospital, Madurai”.

Kindly oblige and consider my request.

Place : Madurai -20.

Yours faithfully,

Date :

## **ABSTRACT**

A study to assess the effectiveness of selected antenatal exercise in terms relieving minor disorder among primi gravida women attending antenatal outpatient department at Government Rajaji Hospital, Madurai.

### **Introduction**

Pregnancy is a time of many physiological changes. Pregnancy and childbirth are the two vital events in the life of a women. During pregnancy women require special care because, it brings double health benefits, first to her as and adult member of the community and second to the product of her pregnancy.

In Government Rajaji Hospital, Madurai obstetrics and gynecological out patient department the average outpatient antenatal attendance per day is 100, 40% of the primi gravida women were diagnosed as minor disorder in second and third trimester. The pregnant women feel discomfort and limited daily activities. By giving antenatal exercise the minor disorder can be minimized.

### **Objective of the Study**

1. To assess the level of minor disorder among primigravida women before and after administering antenatal exercise.
2. To evaluate the effectiveness of selected antenatal exercise in relieving Minor disorder among primi gravida women.
3. To associate the effectiveness of antenatal exercise with selected demographic variables.

### **Methodology**

The conceptual forms work adopted for the study were based on General system theory.

The sample consist of 60 primi gravida women. The tool used for the study is numerical pain rating scale before and after intervention.

Pre assessment was done for after obtaining the informed consent. Confidentiality was maintained. Demonstration of antenatal exercise was done by the researcher post assessment was done after 2 weeks of preassessment. The data was analysed and interpreted by using descriptive and inferential statistics.

**Results**

The results showed the antenatal exercise have significant reduction of minor disorder 't' value 21.697 significant at (0.001) level.

**Conclusion**

Antenatal exercise was effective for gravida women to reduce minor disorder promote comfort and shortening the labour.



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## **CERTIFICATE BY THE GUIDE**

This is to certify that this dissertation titled, **“A STUDY TO ASSESS THE EFFECTIVENESS OF SELECTED ANTENATAL EXERCISE IN TERMS OF RELIEVING MINOR DISORDER AMONG PRIMI GRAVIDA WOMEN ATTENDING ANTENATAL OUTPATIENT DEPARTMENT AT GOVERNMENT RAJAJI HOSPITAL, MADURAI”** is bonafide work done by **Mrs. V.Vijayalakshmi** college of Nursing, Madurai Medical College, Madurai – 20., submitted to the Tamilnadu Dr. M. G. R. Medical University, Chennai in Partial Fulfillment of the University rules and regulations towards the award of the degree of Master of Science in Nursing, Branch III, Obstetric and Gynecology Under our guidance and supervision during the academic period from 2009-2011.

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## CHAPTER - I

*Ask advice, but use your own common sense.*

*A Coach can only inspire their athletes, motivation comes from within.*

*Attitude reflects leadership*

*Obviously you can't change your genes, but you can give them a damn good run for their money.*

*Exercise is a journey, not a destination.*

*– Joan Welsh*

### **Introduction**

Pregnancy is a unique, exciting and often Joyous time in a woman's life, as it highlights the woman's amazing creative and nurturing powers while providing a bridge to the future. Pregnant woman needs to be a responsible woman to support the health of her future child. The growing fetus depends entirely on its mother's health for all needs.

Pregnancy is a time of many physical and physiological changes. Pregnancy and childbirth are the two vital events in the life of a woman. During pregnancy women require special care because, it brings double health benefits, first to her as an adult member of the community and second to the product of her pregnancy. All human life in this planet is born of women. The joys of motherhood cannot be expressed in words. In all cultures being pregnant or to produce a child is considered a major event in the family. Reproduction and formation of family are of central importance to most societies and indeed to most of the people's emotional lives. A woman in her role as a mother forms the backbone of the family. Childbirth is a biological function, which maintains the family continuum.

The physiological changes of pregnancy occur gradually but eventually affect all organ systems of the body. Psychological changes occur not only in response to the physiological alteration that are occurring but also to the increasing responsibility associated with welcoming a new and completely dependent person to the family.

During the first prenatal visit they should be asked about daily routine, recreational and work related exercise are plans for changes during pregnancy. The back pain of pregnancy usually occurs in the lumbar region and becomes more problematic as the uterus enlarges. Low back pain is a common complaint in pregnancy and results from the changes in posture as the uterus grows. Obesity and previous problems with back pain are also risk factors. The degree of pain is closely linked to the strain of bending, lifting, and

walking. The use of good body mechanics when performing these activities limits the potential for severe injury.

**Julie Colliton, MD, Denver spine and Rehabilitation centre (2004)** estimates that 50% of pregnant women experience back pain. Infact, most women probably expect an aching lower back but the right exercise can help prevent or reduce back pain, wearing the right shoes is crucial to back pain prevention. There are a number of physical reasons for back pain during pregnancy .Several biomechanical and physiologic changes during pregnancy contribute to back pain. As the woman's abdominal muscles are stretched and tone is diminished, they lose their ability to contribute to neutral posture. During pregnancy production of the hormone relaxing increases ten-fold. The hormones create joint laxity which not only allows the pelvis to accommodate the enlarging uterus but also weakens the ability of static supports in the lumbar spine to withstand shearing forces. In the pelvis, joint laxity is most prominent in the symphysis pubis and the sacroiliac joints. Some of pregnancy hormones soften the ligaments causing to more than usual, in some cases the ligaments can be strained postural problems caused by the growing uterus. Position of baby can compress nerves and cause back pain.

Every woman wants to enjoy the nine months period with minor disorders, but a certain amount of discomfort. During pregnancy the gravida must nurture and host the fetus, but also adapt to a new body habits and alterations in the hormonal milieu.

It has long been suggested that women who were physically fit tended to have easier labour than those with a more sedentary lifestyle (Exodus 1:19, Vaughen, 1951). According to welton, "Exercise contributes to the enhanced feeling of well being and quicker return to fitness after delivery". Thus the overriding goal is that pregnancy must result in a healthy mother and a healthy infant.

There are some major and minor disorders associated with pregnancy. The pregnancy is normal physiological process with outcome of normal baby born. Though this is considered as normal, there are certain discomforts; the mother has to overcome during pregnancy. The minor disorder is back pain, which can be minimized by doing certain antenatal exercises.

A woman should be encouraged to join early pregnancy classes, as soon as she is pregnant, the sooner the better. Usually the women are encouraged to bring their partner, siblings or friends.

If a woman is already participating in an exercise program, she may continue with minor alterations. Women should ask their health care providers for specific restrictions, especially if they experience bleeding, they are at risk for premature labour, or have other



high risk concerns. Pregnancy is not an appropriate time begin aerobics classes, weight lifting, or a new sport. Walking is good for the heart and may be performed by most women. Pregnant women should avoid sports activities that could result in injury. Maintaining an active and productive life style helps to make time pass faster and adds to a feeling of accomplishment. Working during pregnancy is usually not a problem unless a woman has risk factors or a complicated pregnancy.

During pregnancy exercise is very Important for strengthening the abdominal muscles and for reducing the possibility of back pain. Exercise restores the muscles and nerves to normal function .Potential benefits of exercise during pregnancy includes a decrease in pregnancy related discomfort, boosts energy level ,reduce fatigue, shortened labor and perhaps an increase in the likelihood of vaginal delivery. It is naturally best tranquilizer.

### **1.1.Need for Study**

Most pregnant women experience some degree of back ache, as pregnancy advances, the woman's posture changes to compensate for the weight of the growing uterus. Pregnant women can prevent back strain through good posture and body mechanics. Minor disorder can be reduced with the help of antenatal exercise.

**Michael R and Berman (2008)** conducted study to assess the low back pain during pregnancy. The study revealed that six hundred forty five (65-72%) respondents experiencing lower back pain during their current pregnancy. The prevalence was not affected by gestational age ( $p=0.56$ ) low back pain during the current pregnancies was predicted by age (younger women were more likely to develop it;  $p = 0.04$ ), history without pregnancy ( $p=0.02$ ), during menstruation ( $p=0.01$ ), and during a previous pregnancy ( $p=0.002$ ). The majority of respondents reported that low back pain during pregnancy caused sleep disturbances, (54.62%) and impaired daily living (52.62%).

**Mousavi et al., (2007)** conducted a cross sectional study on pregnancy related pelvic girdle pain and low back pain. This study included 325 pregnant women ranging in age from 16to42 years. A total of 161 pregnant women (49.5%) had reported lumbo pelvic pain at the time of the examination. Based on the posterior pelvic pain provocation test 91 women (28%) had pelvic girdle pain and low back pain simultaneously.

**Skim M.J and Kim J.J (2007)** conducted a experimental study to assess the effects of back pain reducing exercise program pregnancy a non equivalent control group pretest post test study. Pregnant women were included in an intervention group ( $n=29$ ) and their intensity of back pain functional limitation an anxiety were compared with women in control group

from another antenatal clinic (n=27). The data were collected at three times points: points to intervention, and 6 and 12 week after intervention. According to the study at the 12 week after intervention the intensity of back pain experienced by the intervention group was significantly lower than that of the control group( $p < 0.0001$ )

**Kari and Lene A.H. Haakstad (2006)** Longitudinal study on pelvic tilting exercise during pregnancy. Four hundred and sixty seven pregnant women response rate 84%) mean age 31.5 years (range 20-49). 20% reported problem of back pain, the percentage of pregnant women performing pelvic tilting exercise at least once a week before pregnancy and during trimester 1,2 and 3 were 7 12.9% 17.6 and 17.4% respectively. According to his study revealed that 72% of pregnant women had low back pain and pelvic pain during pregnancy.

Many women had lack of knowledge regarding exercise during antenatal period. Most of the women were confused about whether they should or should not exercise during pregnancy and it so, which exercise is safe or suitable. Lack of knowledge can lead to many primigravida women abandoning their exercise regimes. During the second trimester women may experience many symptoms and among these symptoms, minor disorder can be reduced by this selected antenatal exercise. So researcher selected this study to give proper guidance about the antenatal exercise and relieving the minor disorder among primi gravida women.

The statistical data collected from Government Rajaji Hospital, Madurai, Medical Record department at the period of 2009 and 2010 pertaining to minor disorder during second, third trimester.

**TABLE - 1**

<b>Year</b>	<b>Antenatal attendance</b>	<b>Minor disorder during Second and third trimester</b>
2009	36,720	14,688
2010	37,800	15,120

In one year duration it was diagnosed that 40% of the antenatal mother were suffering from minor disorder during their second and third trimester.

When the investigator worked in antenatal outpatient department, she has witnessed that 40% of the pregnant women are suffering from minor disorder in the second and third trimester. The pregnant women feel discomfort and limited daily activities during the second and third trimester. The investigator wanted to minimize the minor disorder with simple antenatal exercise. Many interventions are being followed like acupuncture physiotherapy, massage.

Antenatal exercise is easy to learn after getting practice, and also reduces cost effectiveness, minimize transportation time consuming.

## **1.2. Statement of the problem**

A study to assess the effectiveness of selected antenatal exercise in terms of relieving minor disorder among primi gravida women attending antenatal outpatient department at Government Rajaji Hospital, Madurai.

## **1.3. Objective of the Study**

4. To assess the level of minor disorder among primigravida women before and after administering antenatal exercise.
5. To evaluate the effectiveness of selected antenatal exercise in relieving Minor disorder among primi gravida women.
6. To associate the effectiveness of antenatal exercise with selected demographic variables.

## **1.4. Operational Definition**

### **Effectiveness**

It refers to the desired change brought out by demonstrating selected antenatal exercise and is measured in terms of relieving minor disorder among primigravida women.

### **Selected Antenatal Exercise**

It refers to selected antenatal exercises practiced by the antenatal women during pregnancy which includes abdominal tightening, pelvic tilting to relieve minor disorder.

### **Minor Disorder**

In this study the minor disorder was back pain, experiencing by primi gravida women during antenatal period which is relieving by antenatal exercise.

### **Primigravida**

It refers to the mother who was pregnant for the first time and a single pregnant.

### **1.5.Assumptions**

1. The primi gravida women will not have adequate knowledge about antenatal exercises in relieving minor disorder.
2. After demonstrating selected antenatal exercises the primigravida will get relief from minor disorder.

### **1.6. Research Hypothesis**

1.  $H_1$  There will be a significant difference between pretest and post test level of perception of minor disorder among primigravida women.
2.  $H_2$  There will be a association between the effectiveness of antenatal exercise with selective demographic variables.

### **1.7.Delimitation**

1. The study is limited to time period of 4 weeks.
2. Primi gravida women with minor disorder attending the outpatient department in obstetrics and gynecology at Government Rajaji Hospital, Madurai.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

This chapter deals with review of literature refers to an extensive, exhaustive and systematic examination of publications relevant to the research. Nursing research may be considered a continuing. Process in which knowledge gained from earlier studies is an integral part of research in general. Review of literature is defined as a broad comprehensive of depths, systematic and critical review of scholarly publications

#### **Abdellah and Levine (1979)**

State that the review of literature provides a basis for future investigations, justifies the need for replications, throws light on the feasibility of the study, indicates constraints of data collections and helps to relate the finding of one study to another.

The investigator viewed the related literature to broaden the understanding and gained insight in to the selected problem under study.

#### **Part I : 2.1 Review of Related Studies**

##### **Section A**

Studies related to incidence of minor disorder among Primi gravida women.

##### **Section B**

Studies related to antenatal exercise in relieving of minor disorder.

#### **Section A : Studies related to incidence of minor disorder among Primi gravida women.**

**Noureddin Nakhostin Ansari PT et al.,(2010)** conducted a cross sectional study to evaluate the prevalence and risk factors low back pain during pregnancy in Iranian women .the sample consisted of 103 pregnant women .The study revealed that the prevalence of low back pain during pregnancy was 57.3%

**Michael R and Berman (2008)** conducted study to assess the low back pain during pregnancy. The study revealed that six hundred forty five (65-72%) respondents experiencing lower back pain during their current pregnancy. The prevalence was not affected by gestational age (p=56) low back pain during the current pregnancies was predicted by age (younger women were more likely to develop it; p = 0.04), history without

pregnancy ( $p=0.02$ ), during menstruation ( $p=0.01$ ), and during a previous pregnancy ( $p=0.002$ ). The majority of respondents reported that low back pain during pregnancy caused sleep disturbances, (54.62%) and impaired daily living (52.62%).

**Van De pol et al., (2007)** done a longitudinal cohort study on pregnancy related pelvic girdle pain. A total of 412 pregnant women were selected. The prevalence of Self reported pelvic girdle pain was at its peak in late pregnancy (7.3) one out of 7 women suffering from pelvic girdle pain at 36 week gestation and almost half of the women suffering from pelvic girdle pain 3 months after delivery.

**Mousavi et al., (2007)** conducted a cross sectional study on pregnancy related pelvic girdle pain and low back pain. This study included 325 pregnant women ranging in age from 16 to 42 years. A total of 161 pregnant women (49.5%) had reported lumbo pelvic pain at the time of the examination. Based on the posterior pelvic pain provocation test 91 women (28%) had pelvic girdle pain and low back pain simultaneously.

**Skaggs et al., (2007)** done a cross sectional study on back and pelvic pain during pregnancy. This study was selected 599 pregnant women 67% of the total population reported musculo skeletal pain intensity rated on a numerical rating scale.

**Gutke et al., (2006)** conducted a cohort study on pelvic girdle pain and lumbar pain in pregnancy. This sample size was 313 pregnant women. This study revealed that 194 had lumbo pelvic pain, 17% had lumbar pain and combined pelvic girdle pain and lumbar pain 29%.

**A yanniyi, O. et al., (2006)** conducted a survey on prevalence and pattern of back pain in pregnancy. A survey consisted 2,187 pregnant women pre-tested close-ended questionnaire was used for this study. The study result showed that one thousand and eight (52.5%) of the 1919 included subjects had back pain in pregnancy. The mean age of those with and without back pain was  $26.8 \pm 5.3$  and  $27.1 \pm 5.4$  years. Mean number of pregnancy was higher in subjects with back pain than those without back pain. The pain site among the 1008 subjects with back pain was low back in 669 subjects (66.4%), posterior pelvic in 242 subjects (24.0%) and high back in 97 subjects (9.6%). Among the subjects with back pain, 315 (31.3%) and 53 (5.3%) were in their first and sixth pregnancies.

**Novaes Fs et al., (2006)** conducted a study on low back pain during gestation. The study showed that around 50% of pregnant women had low back pain.

**Diakow PR, et al., (2006)** conducted a retrospective study on back pain during pregnancy and labor. The sample consisted of 400 pregnancies and deliveries. It concluded back pain was reported during 42.5% (170) of the pregnancies and 44.7% (179) of the

deliveries. There was a statistically significant association between back pain during the two events( $P<0.001$ ) of the 170 pregnancies with reported back pain 72%(122) also reported back.

**Mugren et al., (2005)** did a cross sectional study on low back pain and pelvic pain during pregnancy. The response rate was 83.2% (N=891). He concluded that 73% of pregnant women had low back pain and pelvic pain during pregnancy.

**Martins RF and Silva JL (2005)** done a descriptive study to evaluate the prevalence to back pain during pregnancy, 203 pregnant women was selected. The findings showed that prevalence of back pain was 79.8% of this location in the lumbar region was reported by 80.8% and in the sacroiliac by 49% of the pregnant women. Almost 80% of the pregnant women reported back pain at time during pregnancy.

**Ostgaard HC, et al.,(2004)** conducted a descriptive study to evaluate the prevalence of back pain. The sample consisted that 855 pregnant women. This study showed that 9 month period prevalence was 49% , 6 month incidence was 27%.

**Bearston and wedenberg (2002)** conducted a descriptive study regarding intensity of low back pain during pregnancy. This study shared that mean pain intensity over the preceding week in subjects with non specific low back pain for at least 6 week was 56.7% (SD = 20.1%) pain intensity was measured with the visual analog scale, scores 63.5 % to 38% in the morning and 55% in the evening, on the first day of treatment.

**Kristiansson et al., 2002** done a longitudinal cohort study on back pain he selected 200 pregnant women who are attended in the antenatal clinic during pregnancy. This result revealed that 66% reported back pain at some times during pregnancy 61% reported onset during highest pain score reported great difficulties with in normal activities.

**Gelernter et al., (2000)** conducted a descriptive study to assess the incidence of back pain discomfort during pregnancy. He selected 149 pregnant women who are attended in the antenatal clinic. The finding shows that first of estimated incidence of back pain 48% in 2000 the incidence rate was estimated 54.8% in 2002.

## **Section B : Studies Related To Antenatal Exercise In Relieving Of Minor Disorder**

**Wedenberg et al., (2009)** conducted a prospective randomized study comparing acupuncture with physiotherapy for low back and pelvic pain in pregnancy. The women estimated the severity of their pain using a visual analogue scale (VAS) from 0 to 10 and disability in performing twelve common daily activities using a disability rating index (DRI)

from 0 to 10. This result revealed that acupuncture group all 30 women completed the study (two exclusions) in the physiotherapy group only 18. Before treatment the two study groups were rather similar with respect to pain and disability. After treatment the mean morning VAS had declined from 3.4 to 0.9 ( $p < 0.01$ ) in the acupuncture group and from 3.7 to 2.3 (NS) in the physiotherapy group. The corresponding evening values had declined from 7.4 to 1.7 ( $p < 0.01$ ) and 6.6 to 4.5 ( $p < 0.01$ ), respectively. The mean VAS values were lower after acupuncture than after physiotherapy both in the morning ( $p = 0.02$ ) and in the evening ( $p < 0.01$ ). After treatment also the mean DRI values had decreased significantly in the acupuncture group for 11 of 12 activities and the values were significantly lower for all activities that in the physiotherapy group where no significant changes had taken place. Overall satisfaction was good in both groups.

**Pennick and Young (2008)** done randomized controlled trails of interventions for preventing and treating pelvic and back pain in pregnancy. They included eight studies and 13.05 participants were selected. The given specific exercises. Physiotherapy and acupuncture for each group comparing other intervention women those who are practiced pelvic tilting exercise 60% of them had relieved from back pain (mean difference – 5.34, 95% confidence interval – 6.40 to 42%).

**R. Baraket et al., (2008)** done a randomized controlled trail study on the pelvic tilting exercise during pregnancy. They were selected 72 pregnancy women in experimental group and 70 from controlled group. The study revealed that those who are practiced pelvic tilt exercise had relieved from back pain (mean value was 0.745).

**Mrs. Amudha (2007)** did a experimental study on the effects of structured teaching programme regarding Antenatal exercises on knowledge and skill of pregnant women. The sample size was 30 from each group respectively. This study showed that knowledge of participants regarding antenatal exercise 60% had in experimental group and 33.3% in control group. According to skill of participants score were arranged as follows, adequate performance below 50% in the experimental group 26.6% had adequate level skill, 73.33% had moderately adequate skill and none of them had inadequate skill in post test.

**Madsen (2007)** conducted a perspective study on Leisure time physical exercise during pregnancy reducing back pain. He selected 671 pregnant women and adopted systematic sampling method. This study shared that providing the physical exercises will reduce the back pain (HR = 3.7) 95% CL 2.9-4.7).

**Skim M J and Kim JS (2007)** conducted an experimental study to assess the effects of back pain reducing exercise with a non equivalent control group of pretest post test study



pregnant, women were selected those who are having back pain (n=29). The data were collected at three time points: prior to intervention and 6 and 12 weeks after intervention. This study revealed that at the 12 weeks after intervention, the intensity of back pain experienced by the intervention group was significantly lower than that of the control group ( $P < 0.0001$ ).

**Joao Bosco Guerreiro Da Silva et al.,(2007)** conducted a prospective quasi randomized controlled study to evaluate the effects of acupuncture for low back pain in pregnancy. The sample consisted of 61 pregnant women among that 27 patients were experimental group and 34 were control group. The numerical rating scale from 0 to 10 used for this study. Women were followed up for eight weeks and interviewed five times. It showed in experimental group a larger reduction (4.8 points) than the control group (-0.3 points) ( $P < 0.0001$ ). Average pain scores decreased by at least 50% over time in 21(78%) patients in the acupuncture group and in five (15%) patients in the controlled group ( $P < 0.0001$ )

**Kari and Lene A.H Haakstad 2006** conducted a Longitudinal study on pelvic tilting exercise during pregnancy. Four hundred and sixty seven pregnant women (response rate 84% mean age 31.5 years (range 20-49). 20% reported problem of back pain the percentages of pregnant women performing pelvic tilting exercise at least once a week before pregnancy and during trimester 1-2 and 3 were 7, 12.9%, 17.6 and 17.4% respectively. The study showed back pain was reduced after practicing pelvic tilting exercise mean value was 0.745.

**Shim M. J and Lee (2006)** conducted a non equivalent control group pre –test post –test in effect of a back pain reducing program during pregnancy. They selected samples those who are attended in antenatal clinic and experienced of back pain. The given pelvic tilting exercise for 6 to 12 weeks, after intervention the intensity of back pain experienced by the intervention group was significantly lower than that of the control group. Promoting good posture and regular exercise can be recommended as a method to relieve back pain in pregnant women.

**Supultitada A and chaisayan P (2006)** conducted prospective randomized, single blinded, controlled study comparing the effects and safety of “Pelvic tilt exercise and pelvic floor exercise” in relieving back pain. The sample was composed of 67 primi gravidas and adopted random sampling technique with two groups. The experimental group received the pelvic tilting exercise, pelvic floor exercise program for 8 weeks pain intensity was measured by visual analogue scale for both groups. The result of the study is  $p > 0.05$  (unpaired t test). The result showed that exercises are significantly effective in reviewing back pain.

**Melntyre IN, et al.,(2006)** conducted a experiment study on effective treatment of low back pain in pregnancy, (n=20) pregnant women included in this study, mobilizing technique and home exercise was given. It concluded among 20 patients 15 had no pain after three visits and rest had more than 50% improvement in their pain. Low back pain is significantly improved with mobilization.

**Lawrence A et al.,(2006)** conducted a cross sectional study on abdominal tightening exercise during pregnancy. The sample consisted of 388 pregnant women. They provided abdominal tightening exercise for 20 minutes per day. This study showed that pregnancy discomfort was reduced after practicing the selected antenatal exercise. The mean score was 31.7, range 18-22(P=0.01)

**Elden H, et al.,(2005)** conducted a randomized single blind controlled trial on effects of acupuncture and stabilizing exercises as adjunct to standard treatment in pregnant women with pelvic girdle pain(n=386) pregnant women were included. Interventions were given for six weeks with standard treatment(n=130), standard treatment plus acupuncture(n=125) or standard treatment plus stabilizing exercise(n=131) This study revealed that acupuncture group had less pain in the evening than the stabilizing exercise group (-14, -18.1, to -3.3; P=0.0130), the acupuncture group had less pain than the standard treatment group in the morning(12, 5.9, to 17.3; P<0.001) and in the evening(27, 13.3 to 29.5; P<0.001)

**Wang SM, et al., (2005)** conducted a cross sectional survey on complementary and alternative treatment for low back pain (pregnant women and providers of prenatal health care nurse educators, nurse midwives, and obstetricians). This result showed that the majority of pregnant women who participated in our survey (61.7%) reported that they would accept complementary and alternative medicine (CAM) therapy as treatment for Low Back Pain during pregnancy. Similarly, 61% of providers of prenatal health care in our sample reported that they would consider using CAM as treatment for Low Back Pain during pregnancy. Massage (61.4%), acupuncture (44.6%), relaxation (42.6%), yoga (40.6%), and chiropractic (36.6%) were the most common CAM therapies recommended for LBP in pregnancy by the providers of prenatal health care in our sample. This two part survey study found that both providers of prenatal health care and pregnant women in New Haven County are likely to use CAM treatments for pregnancy induced Low Back Pain.

**Kihlstrand M, et al.,(2004)** conducted a prospective randomized study on water gymnastics reduced intensity of back pain in pregnant women(n=258). Among that 129 women were experimental group and 129 were control group. The experimental group received water gymnastic once a week during second half of pregnancy. It is concluded that

water-gymnastics during that second half of pregnancy significantly reduced the intensity of back pain.

**Sternfeld B, et al.,(2004)** conducted experimental study to investigate the effects in aerobic exercise on pregnancy. The study participants (n=388) women (mean age = 31.7, range = 18-42). In the first trimester determined by in person interviews. Level I = aerobic exercise excluding vigorous walking at least three times in a week for 20 minutes, Level II = aerobic exercise at least three times a week for 20 minutes at a time, vigorous walking is included. Level III = aerobic exercise less than three times a week for 20 minutes a time and Level IV = aerobic exercise less than once a week. This study result revealed that pregnancy symptoms were inversely associated with level of exercise. Women who exercised more earlier in pregnancy reported fewer discomforts later in pregnancy (P=0.01)

**Garshashi A., et al (2003)** conducted a prospective randomized study on the effect of antenatal exercise on the intensity of low back pain in pregnant women. 107 women participated antenatal exercises programme for three times a week during second half of pregnancy for 12 week and 105 women were control group. They showed the results that low back pain intensity was increased in the control group. The exercise group showed significant reduction in the intensity of low back pain after exercise (p<0.0001).

**Beckman and Beckman 2003** conducted a quasi experimental study to assess the effect of antenatal exercise on the outcome of labour in primi gravid women. This study revealed that those who exercised is significantly shorter first and second stage of Labour (mean length 7.55 and 1.33 hours respectively; p less than 0.001) as compared to those who did not exercise (mean length 14.6 and 2.47 hourly respectively; p is less than 0.001)

**Das Gulpta (2002)** conducted a experimental study to assess the effect of selected antenatal exercises on the nature and outcome of Labour. They adopted two group experimental (23) and control group (16). The finding of the study indicated that 68% - 75% of mothers in the control group could relax spontaneously during Labour. Mean difference of total during labour was significantly lower in experimental group.

## **Part II : 2.2 Conceptual Frame Work**

Theoretical frame work is a set of defined concepts and relational statement among all major concepts to provide a systematic view of the phenomena.

The conceptual frame work selected for this study was based on general system theory by Ludwing & Bertalanffy, (1968). According to him general system theory is a

science of wholeness and its purpose to unite scientific thinking across disciplines and which provide frame work for analyzing the whole of any open system.

Ludwing & Bertalanffy defines “system as a complex interaction” which means that system consists of two or more converted elements which form an organized whole and which interact with each other rather than loss of single function. In all system activity can be resolved into an aggregation of feedback, circuits such input, throughput and output. The system act as a whole dysfunction of a part causes a system dysfunction. The feedback circuit helps in the maintenance of an intact system.

### **Input**

Input is any form of energy or information, material or human that enters into a system through its boundary. In the present study input refers to assessment of minor disorder among Primi gravida women with numerical pain rating scale, demographic variable such as age, types of family, education types of work, family income, religion, gestational age, body mass index.

### **Throughput**

Throughput is the process that occurs at some point between the input and output process, which enables the input to transfer as output in, such a way that it can readily used by the system. In this study throughput refers to demonstrating antenatal exercise, abdominal tightening pelvic tilting exercise.

### **Output**

Output is the energy material or information that transferred to the environment. Changes is the feature of the process that is observable and measurable as output, which should be different from that which entered into system i.e., input.

In the present study, output refers to as the evaluation of target group by reassessing the minor disorder among Primi gravida women after demonstration of antenatal exercise.

In the present study the numerical pain scale was used to asses the minor disorder, Thus the information acquired should be feed back to the system if minor disorder was not relieved the demonstration will be modified.

# MODIFIED CONCEPTUAL FRA

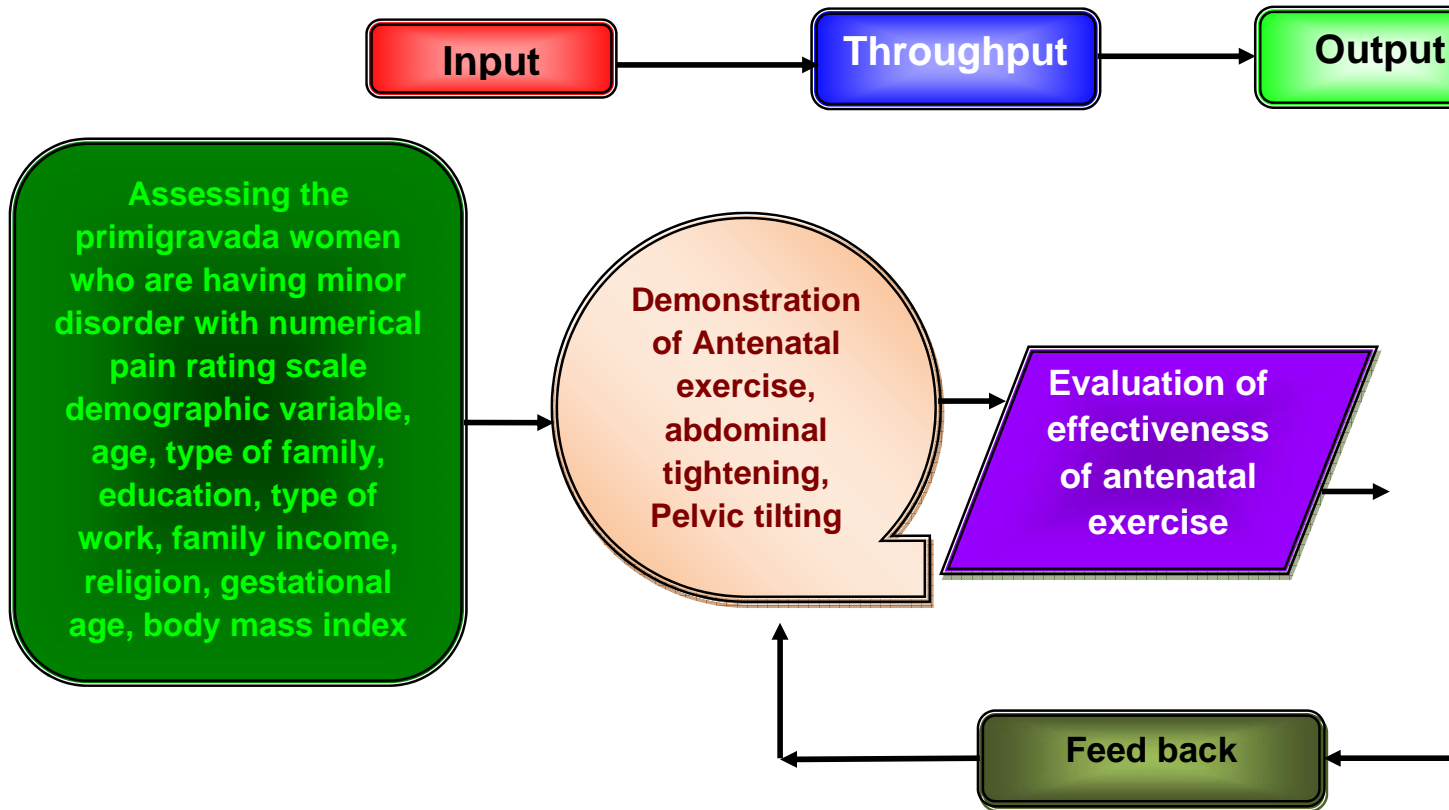


FIG I. GENERAL SYSTEM THEORY BY LUDWING & BERTALANFFY

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

Research methodology is the systematic way to solve a research problem. According to Abdellah (1979) research methodology involves the initial identification of the problem to its final conclusion. It is a science of studying how research is done scientifically. So, methodology is a significant part of research under which the researcher is able to protect a blueprint of the research undertaken.

According to B.T. Basavanthappa (2007) research methodology involves the systematic procedures by which the researcher starts from initial identification of the problem to its final conclusion. The role of methodology consists of procedures and techniques for conducting the study.

This chapter deals with a brief description of the different steps which were undertaken by the investigator for the study. It includes research approach research design, variables, setting of the study population, sample size, sampling techniques, development and description of the tool, validity, reliability, pilot study, data collection procedure and plan for data analysis.

#### **Research Approach - Quantitative approach**

##### **3.1 Research design**

The research design chosen for the present study was one group pretest and posttest design. Observations were made before and after giving adequate explanation and demonstration of selected antenatal exercises in relieving minor disorder among Primi Gravida women.

Diagrammatic representation of the research design is given below.

One group pretest and post test design was used in this study.

<b>Pretest</b>	<b>Intervention</b>	<b>Post test</b>
O <sub>1</sub>	X	O <sub>2</sub>

O<sub>1</sub>. Pre assessment of the minor disorder among Primi Gravida women

O<sub>2</sub>-Post assessment of the minor disorder among Primi Gravida women

X- Intervention/demonstration of selected antenatal exercise.

##### **3.2 Variable**

### **Independent variables**

Selected antenatal exercises abdominal tightening, pelvic tilting

### **Dependent variables**

Minor disorder

### **3.3 Setting of the study**

Polit and Hungler (1999) refer to the physical location and conditions in which data collection takes place in the study as setting. The research settings are the specific places of research, where data collection is made. The selection of the setting was done on the basis of the feasibility for conducting the study, availability of the subjects and geographical proximity. Setting for the present study was the antenatal outpatient department in Government Rajaji Hospital, Madurai.

Though many Hospitals are there in the private sector, people residing in and around Madurai prefer Government Rajaji Hospital, Madurai to meet their health care needs.

This is because of economical reasons as well as availability of quality health care facilities and infrastructure in this institution. This was selected because of the investigator's acquaintance with the setting, easy accessibility and co-operation of the authorities.

### **3.4 Population**

Population that is available to the researcher is the accessible population in this study. They were Primi Gravida women with minor disorder, attending obstetrics and gynecological outpatient department in Govt Rajaji Hospital, Madurai.

### **3.5 Sample**

**Polit and Hungler (1999)** state that a sample consists of the subset of the population selected to participate in the research study. To fulfill the objective of the study the Primi Gravida women attending obstetrics and gynecological outpatient department in Govt Rajaji Hospital, Madurai were selected.

### **3.6 Sampling Technique – Convenient Sampling**

### **3.7 Sample Size**

The sample size for this study was arbitrarily decided to be sixty, factors like nature of study, availability of sample, time, money and material were considered while deciding the sample size.

### **3.8 Criteria for Sample Selection**

#### **Inclusion criteria:**

1. Primigravida women who were willing to participate in the study.
2. Primigravida women who were able to understand Tamil or English.
3. Primigravida women with minor disorder attending out patient department of obstetrics and gynecology.

#### **Exclusive criteria:**

1. Primigravida women who were in high risk.
2. Primigravida women who were selected for pilot study.

### **3.9 Development and description of the tool**

The tool is developed after extensive review of literature from various text book, journals, internet search and discussion and guidance from the experts in the field of nursing, department of obstetrics and gynecology and physiotherapist

#### **3.9.1 Description of the tool**

The tool consists of two sections

##### **Section A**

Demographic variables such as age the mother types of family, education, type of work, family income, religion, gestational age and Body Mass Index

##### **Section B**

It consists of numerical pain rating scale to assess the minor disorder among primi gravida women

#### **3.10 Scoring technique**

- 0-3 mild pain
- 4-6 moderate pain
- 7-10 severe pain



To find out the level of pain, scoring scale was given from 0 to 10, while score (0-3) indicates mild pain, (4-6) indicates moderate pain (7-10) indicates severe pain.

### **3.11 Testing of the tool**

#### **Validity and reliability**

##### **Validity of the tool**

Data collection tool is an instrument that measures the variables of interest of the study accurately precisely and sensitively. The three types of validity are content validity, criterion related validity and construct validity. In the present study 6 experts including 2 gynecologists and 3 nursing experts and one physiotherapist, validated the entire sections of the tool. The experts were requested to check the relevance, sequence and adequacy of the content. Based on their suggestion the tool was reframed.

##### **Reliability of the tool**

Reliability was established through split half method. The instruments were administered to 6 samples representing the characteristics of the population. After the gap of one week the retest was done. The reliability was calculated through split half method. The obtained score 0.6 and this was found to be highly reliable.

### **3.12 Pilot study**

The pilot study is a trial run for the main study, to test the reliability, practicability and feasibility of the study. A formal permission was obtained from the professor and head of the department of obstetrics and gynecology Government Rajaji Hospital, Madurai.

The pilot study was conducted in the obstetrics and gynecology outpatient department for the period of 22.10.10 to 28.10.2010. 6 Primi gravida women were selected by convenient sampling technique. The tool was feasible to administer, so, no further modification was done. The result showed that after post assessment the level of minor disorder was reduced from moderate to mild level.

### **3.13 Data collection procedures**

Formal permission was obtained from the professor, head of the department, obstetrics and gynecology Madurai. Permission also has been obtained from the unit chief and outpatient in charge staff and consent was obtained from the patients. The data collection was done for the period of 4 weeks from 01.11.2010 to 30.11.2010. One week pre test two weeks intervention one week post test. Every introduction of the study was given to the Primi gravida women and reassured that the data collected will be kept confidential. Samples were

collected using convenient sampling. One group pre test and post test design. The pre test assessment was done for 15min for each primi gravida women and demonstration of antenatal exercise done by the researcher for 20minute and return demonstration was done by the primi gravida women for 20minutes.

### **Phase-I Pre assessment**

The investigator introduced herself, established rapport by explaining the purpose. Informed consent was obtained and confidentiality was maintained. In pre assessment numerical pain rating scale was used. The researcher spent 15minutes to each primi gravida woman.

Demonstration of antenatal exercise done by the researcher for 20minutes and return demonstration was done by the primi gravida women for 20minutes.

Initiated to do antenatal exercise for 20minutes once a day for 2 weeks and insisted to come back after 2 weeks for post test

### **Phase-II post assessment**

The investigator conducted the post assessment by numerical pain rating scale after 2 weeks of pre assessment.

### **3.14 Plan for data analysis**

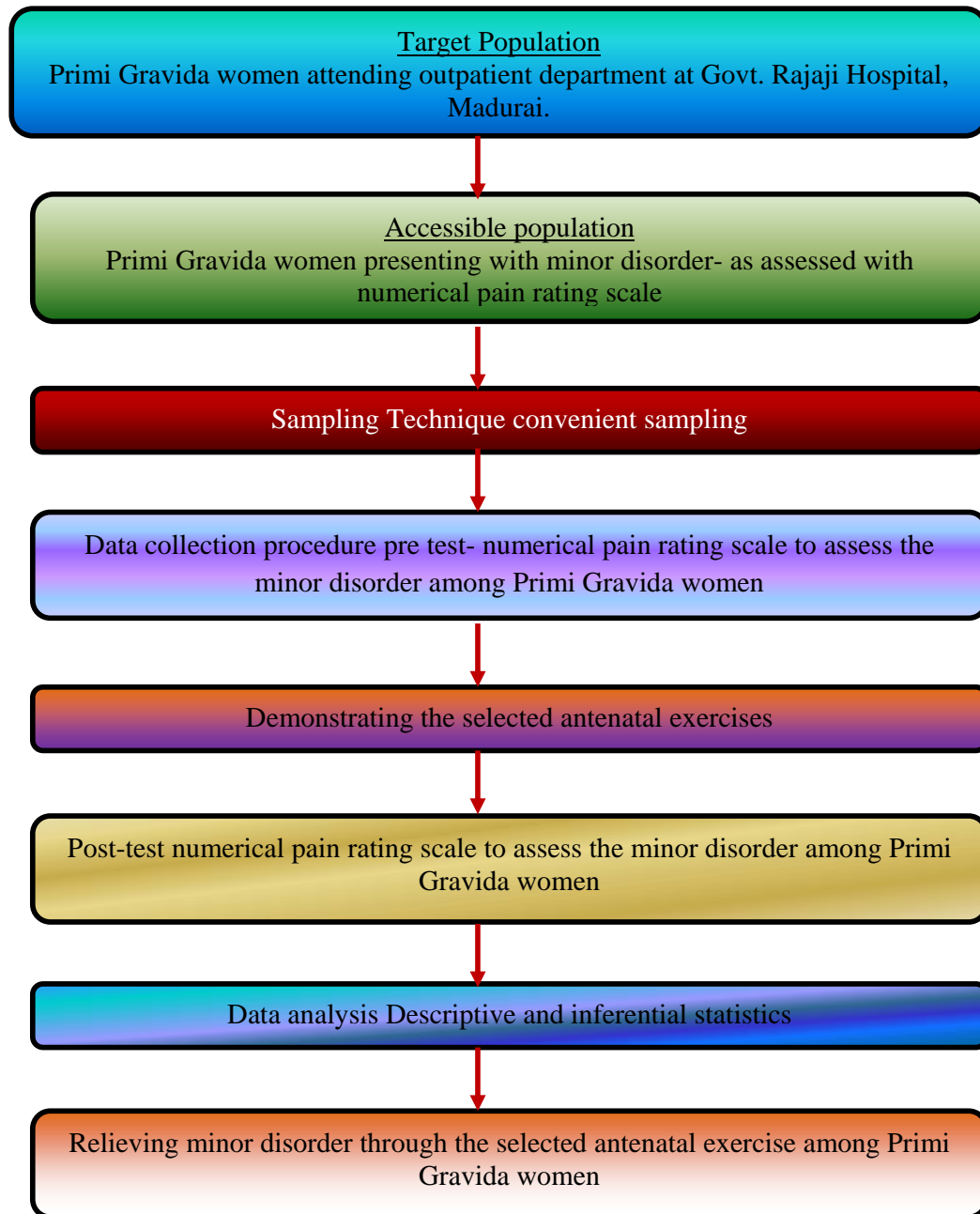
Analysis and interpretation was done based on objectives and hypothesis of the study. The data were analysed using descriptive statistics like frequency percentage, mean, standard deviation. Inferential statistics like chi-square and student 't' test. The findings were expressed in the form of tables and figures.

### **3.15 PROTECTION OF HUMAN SUBJECTS**

The research proposal was approved by the experts prior to the pilot study and permission for the main study was obtained from the hospital superintendent, Govt Rajaji Hospital, Madurai permission was also obtained from the head of the department obstetrics and gynecology. An informed consent was obtained from the each Primi gravida women before starting the data collection. Assurance was given, confidentiality and privacy would be obtained.

### **3.16 Study Design**

#### **SCHEMATIC REPRESENTATION OF THE STUDY**



## **CHAPTER - V**

### **DISCUSSION**

In pregnancy is significant one which strengthens the abdominal muscles and reduces the back pain during pregnancy. Pregnant women those who had back pain during antenatal period educated to attend exercise program and practiced antenatal exercise to relieve minor disorder. Nurses can play a major role in conducting antenatal classes by providing education and demonstrating antenatal exercise to the minor disorder.

The objective of the study is to evaluate the effectiveness of antenatal exercise the effectiveness of antenatal exercise on relieving minor disorder among primi gravida women. The study was conducted at Govt.Rajaji Hospital, Department of obstetrics and Gynecological outpatient department, Madurai.

#### **Characteristics of the demographic variables:**

Regarding the age majority of the primigravida women 40 (66.7%) belonged to the age group of 21-25 years. With regard to type of family majority of the primigravida women belonged to 32 (53.3%) joint family. With regard to educational status majority of the primigravida women 26 (43.3%) were primary level. Regarding type of work majority of the primigravida women 52 (86.7%) belonged to moderate work. Regarding the income majority of the primigravida women 42 (70.0%) belonged to Rs.1000-Rs.3000 income. With regard to religions majority of the primigravida women 32 (53.3%) were Hindu. Regarding the gestational age primigravida women 20 (33.3%) were in each group 24-28 week gestation, 29-33 weeks gestation and 34-38 weeks gestation. Regarding the body mass index majority of the primigravida women 26 (43.3%) belonged to normal.

#### **Findings based on the objectives:**

**The first objective was to assess the level of minor disorder among primigravida women before and after administering antenatal exercise.** The finding implies that 50(83.3%) were moderate and 10(16.7%) were severe pain score during pre intervention. This shows the higher frequency 50(83.3%) were moderate in pre intervention. In post intervention the finding implies that 48(80%) were mild and 12(20%) were moderate pain score after receiving intervention. This shows the higher frequency 48(80%) were mild in post intervention.

The findings were supported by **Michael. Rand Berman(2008)** conducted a descriptive study to assess the low back pain during pregnancy. 65 – 72% respondents experiencing lower back pain during their pregnancy. The majority of respondents reported that LBP during pregnancy caused sleep disturbance.

**Gelemeter et al (2006)** conducted a descriptive study to assess the incidence of back pain and discomfort during pregnancy. This study showed that the estimated incidence of back pain was 48% in 2000, the incidence rate was estimated 54.8% in 2002.

**R. Baraket et al., (2008)** had done a randomized controlled trail study on the pelvic tilting exercise during pregnancy. They were selected 72 pregnant women in experimental group and 70 from controlled group. The study revealed that those who were practiced pelvic tilt exercise had relieved from back pain (Mean value was 0.745).

**Shim M.J and Lee (2006)** conducted a non equivalent control group pretest post test in effect of a back pain reducing program during pregnancy. The given pelvic tilting exercise for 6 to 12 weeks, after intervention the intensity of back pain experienced by the intervention group was significantly lower than that of the control group.

**The second objective was to evaluate the effectiveness of selected antenatal exercise in relieving minor disorder among primigravida women before and after antenatal exercise.** The obtained “t” value is 21.697. The findings implies that there is a significant difference between pain score level between pre intervention and post intervention. Mean score of pain level in pre and post intervention are 5.53, 3.03 respectively depicts the effectiveness of the intervention as the mean score decreased.

**Lawrence. A et al., (2006)** conducted a cross sectional study on abdominal tightening exercise during pregnancy. The sample consisted of 388 pregnant women. They provided abdominal tightening exercise for 20 minutes per day. This study revealed that pregnancy discomfort was reduced after practicing the selected antenatal exercise. The mean score was 31.7 range 18-22 (P = 0.01).

**Supultitada A and chaisayan P (2006)** conducted prospective randomized, single blinded, controlled study comparing the effects and safety of pelvic tilt exercise and pelvic ‘floor exercise’ in relieving back pain. The experimental group received the pelvic tilting exercise, pelvic floor exercise program for 8 weeks pain intensity was measured by visual analogue scale for both groups. The result of the study is  $P > 0.05$  (unpaired t test). The result showed that exercises were significantly effective in reviewing back pain.

**Garshashi A. et al (2003)** conducted a prospective randomized study on the effect of exercises on the intensity of low back pain in pregnant women. The study showed that between the two groups, low back pain intensity was increased in the control group. The experimental group showed significant reduction in the intensity of low back pain after exercise ( $P < 0.0001$ ).

**The third objective was to associate the effectiveness of antenatal exercise with selected demographic variables.** There is no significant association between BMI and level of pain (calculated value – 2.073, table value – 7.82). There is no significant association between age of the mother and level of pain. (calculated value – 4.679, table value – 7.82). There is significant association between type of work and level of pain. (calculated value – 8.72, table value – 3.84). There is significant association between family income and level of pain. (calculated value – 10.17, table value – 5.99). There is no significant association between gestational age and level of pain. (calculated value – 1.25, table value – 5.99).

**Kari and Lene A. H. Haakstad 2006** conducted a longitudinal study on pelvic tilting exercise during pregnancy. The study revealed that four hundred and sixty seven pregnant women response rate were 84% mean age was 31.5 years (range 20-49). (20% reported problem of back pain the percentages of pregnant women performing pelvic tilting exercise at least once a week before pregnancy and during trimester of 1-2 and 3 were 7, mothers (12.9%) (17.6 and 17.4% respectively). The study showed back pain was reduced after practicing the pelvic tilting exercise mean value was 0.7545.

## **CHAPTER - VI**

### **SUMMARY, CONCLUSION, IMPLICATIONS, RECOMMENDATIONS AND LIMITATIONS**

#### **6.1 SUMMARY**

In pregnancy minor disorders are common. There are many minor disorders among that, back pain is one of the minor disorder. This study is done to reduce the minor disorder by providing antenatal exercise for prime gravida women with minor disorder attending Department of obstetrics and gynecology out patient department Govt Rajaji Hospital Madurai.

#### **The objectives of the study were**

1. To assess the level of minor disorder among primi gravida women before and after administering antenatal exercise
2. To evaluate the effectiveness of selected antenatal exercise in relieving minor disorder among primi gravida women before and after antenatal exercise.
3. To associate the effectiveness of antenatal exercise with selected demographic variables.

The research hypothesis were formulated was

H<sub>1</sub>      There will be a significant difference between pretest and post test level of perception of minor disorder among primi gravida

H<sub>2</sub>      There will be a association between the effectiveness of antenatal exercise with selective demographic variables.

The variables of the study were



**Independent variable**

Selected antenatal exercises - abdominal tightening, pelvic tilting.

**Dependent Variable**

Minor disorder.

Review of literature facilitated the investigator to collect the relevant information to support the study, to design the methodology and to develop the tools, drawing the conceptual frame work method and demonstration of antenatal exercises.

The conceptual frame work for the study was based on General system theory by Ludwig & Bertalanffy (1968) and it provided a comprehensive frame work for achieving the objectives of the study. The research design used in the study was one group pre test and post test design.

The study was conducted in the obstetrics and gynaecology outpatient department at Govt. Rajaji Hospital Madurai.

The tool consists of demographic profile, Numerical pain rating scale. It was validated by medical and nursing experts.

The pilot study was conducted after getting formal permission from the department of obstetrics and gynaecology at Govt. Rajaji Hospital, Madurai. The results revealed that antenatal exercises had significant effect in reducing minor disorder among primi gravida women. The reliability was established through spilt -half method. The obtained score was

0.6 and this was found to be highly reliable. The study was found to be practically feasible to proceed with the main study.

The main study was conducted at the obstetrics and gynecology outpatient department, Govt Rajaji Hospital, Madurai. The sample consists of 60 primi gravida women with minor disorder. Convenient sampling method was used for this study. The data collected was analysed using descriptive and inferential statistics.

## **6.2 MAJOR FINDINGS OF THE STUDY**

1. According to pretest pain score 50 (83.3%) moderate pain, 10(16.7%) severe pain.
2. Mean score of pre intervention 5.53
3. Mean post test pain score is 3.03
4. Mean difference of pretest and post test score was 2.5 ( Paired 't' test value = 21.697)
5. According to post test pain score 48 (80%) mild pain, 12 (20%) moderate pain.

Antenatal exercise have significant reduction of minor disorder 't' value = 21.697 significant at 0.001 level.

The chi-square test showed that there was significant association between post test pain score with demographic variables such as type of work, family income.

### **6.3 CONCLUSION**

The main conclusion drawn from this pretest study was that most primi gravida women had minor disorder. After practicing selected antenatal exercises among primi gravida women the minor disorder was reduced. The study revealed that practicing selected antenatal exercises was highly effective which will reduce the minor disorder among primi gravida women.

### **6.4 IMPLICATIONS**

According to tolsma (1995) the selection of research report that focus on implication usually includes specific suggestion for nursing practice, education, administration and research.

#### **Nursing Practice**

Advanced nursing practice is one of the evolving trends in nursing practice, in which the hospital has the definite specified role for the nurse so the nurse specialist play a pivotal role in helping the patient to reduce discomfort and promote the comfort by providing quality care and preventing complications.

Nurses have a vital role in antenatal care and management of minor disorder.

Nurses need to act as source of knowledge and educate the primi gravida women on minor disorder of pregnancy and its management.

Nurse should have, up to date knowledge on recent trends in diagnostic procedure and management of minor disorder of pregnancy.

The present study helps the Nurse to enable primi gravida women to do the selected antenatal exercises which helped in relieving minor disorder.

### **Nursing Education**

Before, nurses can utilize their practice, they need to have a strong foundation and knowledge through education from the inception to nursing as a nurse student till they graduate as professional nurses they learn along with the changing trends.

The purpose and steps of antenatal exercises should be taught at the bed side in the clinical area and antenatal outpatient department to all the nursing students. They should be given opportunities by assigning patients along with the supervision of senior ward nurses in providing nursing interventional care.

The nurse should have up to date knowledge regarding the treatment modalities for the symptoms in minor disorders of pregnancy.

Nursing faculty members should impact the knowledge about minor disorder of pregnancy and its management to the student nurse.

### **NURSING ADMINISTRATION**

Nursing administrator should conduct in service education program regarding reduction of minor disorder with nonpharmacological method.

1. Administrators should motivate the health personal to demonstrate the antenatal exercises to the primi gravida women in order to relieve the minor disorder.
2. Nursing administrators should arrange for periodic joint discussion about minor disorder of pregnancy and its management among nurses and doctors.
3. Nursing administrators should provide the time, place and material for the Nurse to educate the antenatal women on self care of minor disorder of pregnancy

### **NURSING RESEARCH**

1. More research studies in India are needed to identify the minor disorders to further complications among primi gravida women.
2. The finding of the present study helps to prepare the study in different gravida group women.
3. The present stimulates recommend recognize, support, research on physical, medical, genetic, psychological and cultural aspects of minor disorders and its transition in to clinical practice.

### **6.5 RECOMMENDATION**

The study drawn the following recommendation.

1. A comparative study can be done between multi gravida and primi gravida women
2. A similar study can be done as an experimental study.
3. A study can be done to investigate the occurrence of minor disorders of pregnancy and its management.
4. A similar study can be replicated with large sample.
5. A similar study can be conducted on knowledge, attitude and beliefs of antenatal exercises in relieving the minor disorders.

6. A study can be done to find out the alternative therapies to relieve the minor disorder among pregnant women.
7. A study can be done among experimental and control group.

## **6.6 LIMITATION**

1. The study is limited to time period of 4 weeks.
2. Primigravida women with minor disorder attending the out patient department in obstetrics and gynecology at Government Rajaji Hospital, Madurai.

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## CONTENT VALIDITY CERTIFICATE

### TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool developed for data collection by V. Vijayalakshmi on thesis entitled A study to assess the effectiveness of selected antenatal exercise in terms of relieving minor disorders among primi gravida women attending antenatal outpatient department at in G.R.H, Madurai-20.

Date : 10.11.2010.

Signature



R. SHANKER M.D.T (O&G)  
PRINCIPAL  
TRINITY MISSION AND  
MEDICAL FOUNDATION.  
ULTRA TRUST  
MADURAI.

Seal

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2/11/20.

*V. Vijayalakshmi*

Date:

Signature

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Date : 30-10-2010



Signature

**PRINCIPAL**  
**MATHA COLLEGE OF NURSING**  
**VAANPURAM, MANAMADURAI - 630606**  
**Sivagangai District Tamilnadu**

Seal

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Date : 25/10/10

Signature  
 Reader  
 C. S. I. Jayaraj  
 M.D. Htlls,  
 G. R. H, Madurai.  
 Madurai.

Seal



## APPENDIX – A

### SECTION - I

#### PART - A

#### DEMOGRAPHIC DATA

##### SAMPLE NO:

##### 1. Age in years

- a. Less than 21 years ☐
- b. 21-25years ☐
- c. 26-30 years ☐
- d. Above 30 years ☐

##### 2. Types of family

- a. Nuclear ☐
- b. Joint ☐
- c. Extended family ☐

##### 3. Education

- a. Uneducated ☐
- b. Primary level ☐
- c. Secondary level ☐
- d. Degree ☐

##### 4. Types of work

- a. Sedentary work ☐
- b. Moderate work ☐

##### 6. Family income

- a. Rs.1000 - Rs.3000 ☐
- b. Rs.3000 - Rs1000 ☐
- c. Above 5000 ☐

##### 7. Religion

- a. Hindu ☐
- b. Christian ☐
- c. Muslim ☐

8. Gestational age

- a. 24—28 weeks ☐
- b. 29 — 33 weeks ☐
- a. 34—38 weeks ☐

9. BMI

- a. Underweight ☐
- b. Normal ☐
- c. Overweight ☐
- d. Obese ☐

## SECTION - II

### Numerical Pain rating scale

The numerical pain rating scale is a 10 point scale used to assess the minor disorder (back pain) among Primi gravida women. The women who is in minor disorder (back pain) asked to choose the appropriate pain perception level in the numerical pain rating scale.

0 1 2 3	4 5 6	7 8 9 10
Mild pain	Moderate pain	Severe pain

## நேர்முக காணல் படிவம்

### புள்ளிவிவர ஆய்வு

#### 1. வயது

- அ. 21வயதுக்கு கீழ்
- ஆ. 21-25 வரை
- இ. 26- 30 வரை
- ஈ. 30வயதுக்கு மேல்

#### 2. குடும்பத்தின் பிரிவு

- அ. தனிக்குடும்பம்
- ஆ. கூட்டுக் குடும்பம்
- இ. தொடர் குடும்பம்

#### 3. கல்வித்தகுதி

- அ. படிக்காதவர்
- ஆ. ஆரம்பக்கல்வி
- இ. உயர்நிலைக்கல்வி
- ஈ. பட்டதாரி

#### 4. பணியின் பிரிவு

- அ. உட்கார்ந்த நிலை வேலை
- ஆ. மிதமான வேலை

#### 5. குடும்ப மாதவருமானம்

- அ. ரூ.1000 - ரூ.3000
- ஆ. ரூ.3001 - ரூ.5000.
- இ. ரூ.5000க்கு மேல்

#### 6. மதம்

- அ. இந்து
- ஆ. கிறிஸ்தவர்
- இ. இஸ்லாமியர்

#### 7. கர்ப்ப கால வயது

- அ. 24-28வாரம்
- ஆ. 29-33 வாரம்
- இ. 34-38 வாரம்

**8. உடல் பருமன் அளவு**

அ. குறைவான எடை

ஆ. சராசரி எடை

இ. அதிக எடை

ஈ. மிக அதிக எடை

**கைக்கருவி**

எண்குறி மதிப்பீட்டு அளவின் மூலம் இடுப்பு வலியின் தீவிரத்தை அளவிடல்.

0 1 2 3	4 5 6	7 8 9 10
குறைந்த வலி	மிதமானவலி	மிகஅதிக வலி

## DEMONSTRATION MODULE ON SELECTED ANTENATAL EXERCISE

Topic	:	Selected Antenatal Exercises
Place	:	Govt. Rajaji Hospital Obstetrics & Gynaecology Outpatient Department
Duration	:	30 Minutes
Method of Teaching	:	Lecture Cum Demonstration
Medium of Instruction	:	Tamil

### Central Objectives

At the end of the health teaching mother will gain knowledge regarding antenatal exercise and develop desirable attitude regarding the topic and acquire skill in performing the exercise in home itself.

### Specific Objectives

Women will be able to

- Define the antenatal exercises
- List out the purpose of antenatal exercises
- Enlist the benefits of antenatal exercises
- Point out the guidelines for performing the antenatal exercises
- Explain the types of antenatal exercises
- Perform the antenatal exercises

### Introduction

Exercise during pregnancy will help you to stay healthy, reduce back pain, keep your weight gain in a safe, loose weight faster after pregnancy, improve your mood, reduce your stress, and helps you to sleep well. So antenatal exercise are very much important during pregnancy today. Let me mention some of the antenatal exercises.

Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
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Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
2 Mts	Women will able to define the antenatal exercise	<p>Definition</p> <p>Antenatal exercise is refers to position the pregnant women adopt for exercise which stimulates the circulation and gives a feeling of well being</p>	Explaining	Listening	What do you mean antenatal exercises
6mts	Mother will able to list out the purpose of antenatal exercises	<p>Purpose of antenatal exercise</p> <ul style="list-style-type: none"> <li>➤ Improve circulation</li> <li>➤ Reduce fatigue</li> <li>➤ Helps to stay healthy</li> <li>➤ Keeps your weight gain in a safe</li> <li>➤ Loose weight faster after delivery</li> <li>➤ Provides improved mood, and improved sleep patterns</li> <li>➤ Improves digestion and prevent constipation</li> </ul>	Explaining	Listening	Can you tell the purpose of the antenatal exercise?
		<ul style="list-style-type: none"> <li>➤ Prepare for child birth by strengthening the muscles</li> </ul>			



Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
		➤ Helps to regain the shape of the body			
		➤ Its will provide strengthening of abdominal muscles ➤ It will prevent urinary problems like leaking urine, during cough or sneeze after delivery			
	Women will enlist the benefits of antenatal exercises	Benefits of antenatal exercises for mother  ➤ Helps to reduce pain during Labour ➤ Helps to improve posture and appearance ➤ extra help to create feeling if physical well being and reduce tension ➤ Helps to strengthen the muscle in preparation of Labour and loosened joints	Explaining	Listening and asking doubt	What are all the benefits of antenatal exercises
		➤ Helps to have delivery through the normal birth canal without injury to mother			
		➤ Restore the strength which is required during delivery <b>For Baby</b>			
		➤ Helps to have healthy baby			

Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
		➤ Helps to reduce the birth injury			
	Point out the guidelines performing antenatal exercises	Guidelines for performing antenatal exercise Do's ➤ Empty the bladder ➤ Loosen all restricting clothing ➤ Be calm ➤ Breath Normally	Explaining	Listening	Can you explain guidelines for performing antenatal exercises

Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
		➤ Lie down on the floor or bed comfortably ➤ Do the exercises for 10 to 15 minutes ➤ Drink fluid liberally before during and after exercise to prevent dehydration ➤ Exercise should be performed in a cool place			

		<b>Don'ts</b> <ul style="list-style-type: none"> <li>➤ Do not continue the exercise if you feel giddy or vaginal bleeding</li> <li>➤ Do not do the exercise more than 30 minutes</li> <li>➤ Do not do with full stomach</li> <li>➤ Do not overstretch (As your ligaments are fragile and can easily tear)</li> </ul>			
Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
2mts	Women will explain types of antenatal exercise	Type of selected antenatal exercise <ul style="list-style-type: none"> <li>➤ Abdominal tightening</li> <li>➤ Pelvic tilting or Racking</li> </ul>	Explaining	Listening	What are the type of selected antenatal exercise
20 mts	women will able to perform the antenatal exercise	Abdominal Tightening Exercise Benefits <ul style="list-style-type: none"> <li>➤ It will strengthen the deep transverse abdominal muscles</li> <li>➤ It will prevent back pain</li> <li>➤ It will give normal postural curve</li> </ul>	Demonstrating	Listening and performing antenatal exercises	can you do the antenatal exercise
		<b>Procedure</b>			
		<b>Step 1:</b> Lie flat or sit comfortably			

		<b>Step 2:</b> Breath in and out			
		<b>Step 3 :</b> Then pull the lower part of the abdomen below the umbilicus while continuing to breath normally			

Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
		<b>Step 4:</b> Hold up to 10 seconds			
		<b>Step 5 :</b> Repeat up to 10 times			
		<b>Pelvic tilting or rocking exercise</b> <b>Benefits</b>			
		➤ To strengthen the abdominal and back muscles			
		➤ To tone up the straight abdominal muscles.  ➤ To ease any postural back ache which may occur in the first few days of the postnatal period			

Time	Specific Objective	Content	Teacher activity	Learner activity	Evaluation
		Procedure			
		<p><b>Step 1</b> : Lie flat on the bed knees bent and feet flat.</p> <p><b>Step 2</b> : Place one hand under the back and the other as top of the abdomen.</p> <p><b>Step 3</b> : Tighten the abdomen and buttocks.</p> <p><b>Step 4</b> : Press the small of the back down onto the underneath hand.</p> <p><b>Step 5</b> : Breath normally.</p> <p><b>Step 6</b> : Hold for upto 10 seconds.</p> <p><b>Step 7</b> : Then relax.</p> <p><b>Step 8</b> : Repeat up to 10 times.</p>			

### Summary

So far we have discussed about definition of antenatal exercise, purpose, benefits, guidelines for performing the antenatal exercises and procedure of each exercise.

### Conclusion

The exercise taught to you should be practiced regularly in order to have safe delivery and to prevent undue complicating postpartum period. Hope will follow in your daily life.



